California Monthly Climate Summary
April 2014

Weather Highlights

April 2014 was a warm and dry month for California. According to the Western Region Climate Center's California Climate Tracker, the monthly average temperature was 56.1°F which is 3.4°F higher than the long-term average of 52.7°F. With a statewide average of 1.16 inches, precipitation in March was 70% of average.

April started with wet weather associated with a series of passing cold fronts. High pressure built over the state by the end of the first week bringing warm, dry conditions. The second week saw no precipitation as temperatures were well above average due to the strong ridging. The third week saw more wind for Southern California while northern California saw cooler and wetter conditions at the end of the week. Thunderstorms followed the passing of the cold front along the crest of the Sierra. The month closed out with a series of weather disturbances that brought light precipitation to the northern parts of the State. Southern California remained dry.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 61 temperature records tied or broken and 3 precipitation records set for the month. Of the 61 temperature records set, 25 were for new high maximum temperatures and 35 were for new high minimum temperatures. Records were set over 17 days of the month.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 145 stations recorded a minimum temperature below freezing in March while 5 stations reached or exceeded 100°F at least once during the month. Statewide extremes from the CDEC network of temperature gages are shown below. Also shown are the monthly average extremes from the CIMIS network. A table of regional average minimum, mean, and maximum temperatures from the CDEC stations is also shown at the end of the summary.

Precipitation in April ranged from above average in the San Francisco Bay Region to below average elsewhere in the State. For the CDEC precipitation gages for April 2014, the largest amount of precipitation recorded was at Bear Trap Meadow the Tulare region with 7.25 inches. This is 134% of the average precipitation for this station for April. At the other end of the spectrum, four stations recorded no precipitation for the month. For the CIMIS network, Moraga in Contra Costa County topped the precipitation charts with 3.11 inches for the month and 18 stations recorded no precipitation. Some CIMIS gages may show large precipitation totals if the gages are not covered during irrigation activities so care should be given to review precipitation data used from this network.

The 8-Station Index for northern California precipitation recorded 2.4 inches in April. Ten days recorded precipitation in the region. On average, 3.9 inches of precipitation is recorded for the 8-Station index for the month. The San Joaquin 5-Station Index

recorded 3.2 inches for April. On average, 3.5 inches of precipitation is recorded for the 5-Station Index in April.

CoCoRaHS Update

April 2014 continues California's fifth year with CoCoRaHS – the Community Collaborative Rain, Hail and Snow Network. This group uses citizen volunteers to record rain, hail and snow data. The users enter the data online at the CoCoRaHS web site. The web site provides the opportunity to see spatial detail of rain and snow patterns. A map from April 2, 2014 is shown at the end of the document. As of the end of April, California has 1130 volunteers signed up spanning 54 of California's 58 counties. The counties without volunteers are Alpine, Colusa, Glenn, and Modoc. The counties with the most volunteers at the end of April are San Diego and Sonoma with 102 and 101 volunteers respectively. For the month of April, 11,956 reports were recorded for California. The largest daily rain total for CoCoRaHS- CA in April was in Plumas County where 2.50 inches was recorded on 4/1/2014. There were 79 snowfall reports recorded with the largest being 19 inches in Placer County. The largest total depth of snow reported in April was 66 inches in Placer County. Twelve hail reports were submitted in April over 11counties. The largest stone size reported was 7/8" sized in Santa Barbara County on 4/2/2014. To join CoCoRaHS or find more information, please visit http://www.cocorahs.org.

Snowpack and Water Supply Conditions

April 1st is the traditional peak of the snowpack accumulation in the Sierra Nevada. At the end of April, the Northern region snowpack held 2 inches of snow water equivalent (SWE) which is 8% of average for the date. The Central region SWE was reported to be 6 inches which is 24% of average for the date. The Southern region SWE was reported to be 4 inches which is 20% of average for the date. The Water Supply Index (WSI) for WY2013 for the Sacramento Basin fell into the dry category and the San Joaquin fell into the critical category. The median forecast for the WSI for both the Sacramento and San Joaquin Basins this year is the critical category. More information can be found at http://cdec.water.ca.gov/water_supply.html. A historical listing of water year categories for both basins can be found at http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST.

Drought Monitor and Seasonal Outlook

The maps for California for March 25, 2014 and April 29, 2014 are shown below. The Drought Monitor maps can be found on the National Drought Mitigation Center's (NDMC) website http://drought.unl.edu/dm/. These maps are largely a reflection of precipitation and soil moisture deficit estimates. As of the April 29th depiction, 24.77% of California is depicted in the D4 or exceptional drought category, 51.91% of California is depicted in the D3 or extreme drought category, 19.33% of California is depicted in D2 or severe drought category, and 3.99% of California is depicted in D1 or moderate drought category. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for May through July from NOAA depicts California in persisting drought throughout the state. This forecast is based primarily on climatology and forecast models. Maps and information can be found at http://www.cpc.noaa.gov/products/expert_assessment/seasonal_drought.html. Updates are provided twice per month.

For more information on water conditions in California, visit http://www.water.ca.gov/waterconditions/. A table showing end-of-April reservoir storage by hydrologic region is shown at the end of this document.

ENSO Conditions and Long-Range Outlooks

The El Niño/Southern Oscillation (ENSO) is currently in neutral conditions. Equatorial sea surface temperature anomalies for the tropical Pacific have been trending positively with values of 0.4°C in the Niño 3.4 at the end of April. TheFebruary through April 3-month running mean of the Ocean Niño Index (ONI) is -0.5. Five consecutive ONI values need to be below the threshold of -0.5 for conditions to be classified as a La Niña event (five consecutive values above the 0.5 threshold need to be observed for classification as an El Niño event). Most forecast models have the tropical sea surface transitioning to El Niño conditions by the latter part of summer. More information can be found at the Climate Prediction Center's web site: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ Updates are posted weekly. The latest three month outlook (May through July) from NOAA indicates a higher probability for above normal temperatures for the State. For precipitation, a higher probability of below normal conditions is forecast for the northern part of the state and equal chances elsewhere. Outlook plots and discussions can be fount at http://www.wrcc.dri.edu/longrang/. General weather information of interest can be found at http://www.noaawatch.gov/. For anomaly information please see http://www.wrcc.dri.edu/anom/cal_anom.html.

Agricultural Data

April 2014 saw harvests, crop development and planting. Alfalfa's second cut was made. Wheat and oats were harvested. Fruit tree blooms occurred and olive bloom began. Strawberries and blueberries were harvested. Fungicides were applied to orchards and vineyards. Nuts continued to develop. Cotton planting was wrapping up. There was some reported hail damage to tomato fields in Fresno County. Herd reduction continues due to lack of forage. For further crop information see http://www.nass.usda.gov/index.asp.

Other Climate Summaries

California Climate Tracker (new product of Western Region Climate Center)
Golden Gate Weather Service Climate Summary
NOAA Monthly State of the Climate Report

Statewide Extremes (CDEC)
High Temperature – 103°F (Cahuilla, Colorado River Desert)
Low Temperature – -5°F (Upper Burnt Corral, Tulare)
High Precipitation – 7.25 inches (Bear Trap Meadow, Tulare)
Low Precipitation – 0 inches (4 stations)

Statewide Extremes (CIMIS)
High Average Maximum Temperature – 88 ^{0}F (UC San Luis, Imperial County)
Low Average Minimum Temperature – 28.2^{0}F (Tulelake FS, Siskiyou County)
High Precipitation – 3.11 inches (Moraga, Contra Costa County)*
Low Precipitation – 0 inches (18 stations)
*Sometimes irrigation water from sprinklers gets counted as precipitation if the gage is not covered.

Statewide Mean Temperature Data by Hydrologic Region (degrees F)

Hydrologic Region	No. Stations	Minimum	Average	Maximum
North Coast	18	30.0	50.6	81.6
SF Bay	9	37.6	56.5	83.2
Central Coast	10	35.1	57.2	89.0
South Coast	39	36.6	60.5	88.4
Sacramento	72	28.7	51.7	80.4
San Joaquin	45	22.0	49.1	76.6
Tulare Lake	16	19.1	44.8	68.2
North Lahontan	6	19.1	45.3	72.8
South Lahontan	15	15.6	45.7	70.9
Colorado River Desert	7	43.9	72.2	98.0
Statewide Weighted Average	237	28.0	51.6	80.1

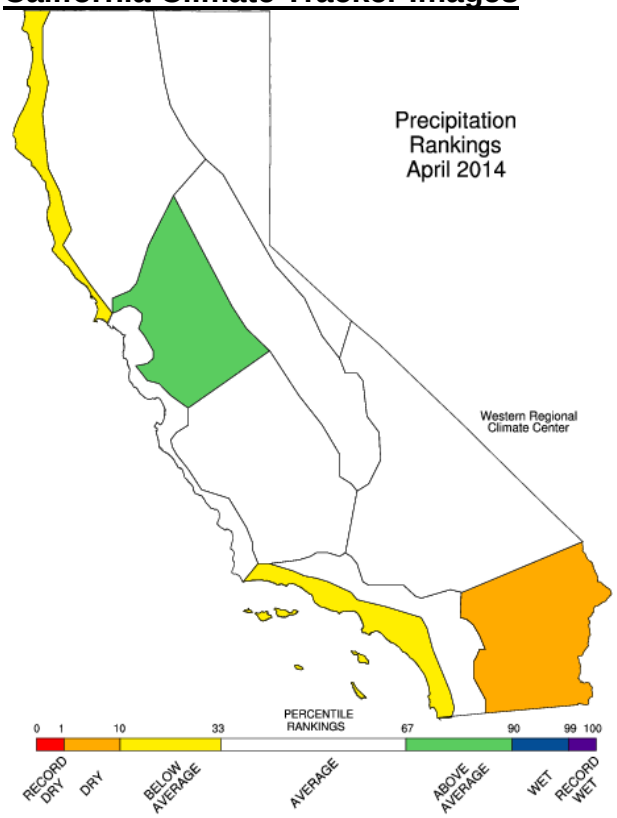
Statewide Precipitation Statistics

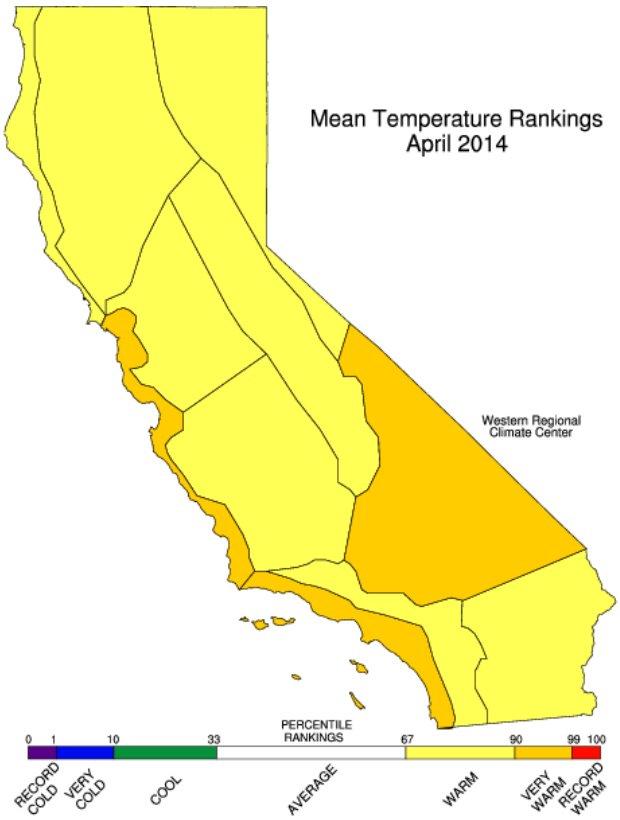
Hydrologic Region	Region Weight	Basin Reporting			Stations Reporting			% of Historic Average	
		Basins	Apr	Oct-Apr	Stations	Apr	Oct-Apr	Apr	Oct-Apr
North Coast	0.27	5	5	5	17	13	13	48.7%	52%
SF Bay	0.03	2	2	2	6	4	4	108%	58%
Central Coast	0.06	3	3	3	11	8	8	56.5%	46%
South Coast	0.06	3	3	3	14	11	10	43.1%	41%
Sacramento River	0.26	5	5	5	41	32	31	74.0%	59%
San Joaquin River	0.12	6	6	6	24	18	18	74.5%	50%
Tulare Lake	0.07	5	5	5	28	28	27	97.7%	48%
North Lahontan	0.04	3	3	3	13	13	12	58.1%	63%
South Lahontan	0.06	3	3	3	15	13	13	56.4%	50%
Colorado River	0.03	1	1	1	6	5	5	18.8%	39%
Statewide Weighted Average	1	36	36	36	175	143	140	63.7	52%

End-of-April Reservoir Storage by Hydrologic Region
Storage in Thousand Acre-Feet (taf)

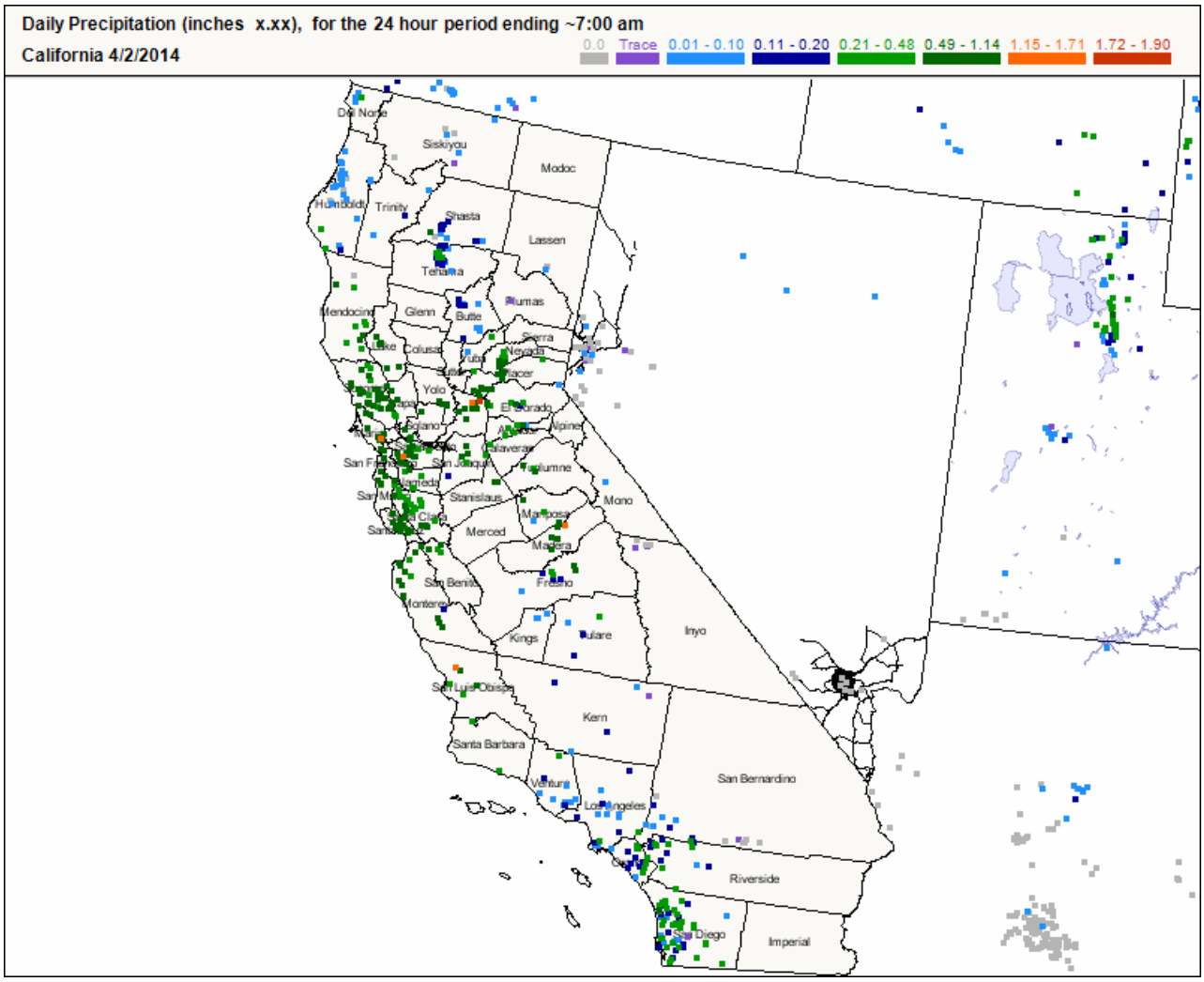
End-of-April Reservoir Storage	Number of Reservoirs	Average Storage (taf)	2014 Storage (taf)	% of Average
North Coast	6	2459	1,605	65%
San Francisco Bay	17	529	462	87%
Central Coast	6	711	184	26%
South Coast	29	1,524	1,102	72%
Sacramento	43	13,043	9,576	73%
San Joaquin	34	7,773	5,333	69%
Tulare	6	1,062	552	52%
North Lahontan	5	585	288	49%
South Lahontan	8	261	247	95%
Total	154	27,950	19,352	69%

California Climate Tracker Images





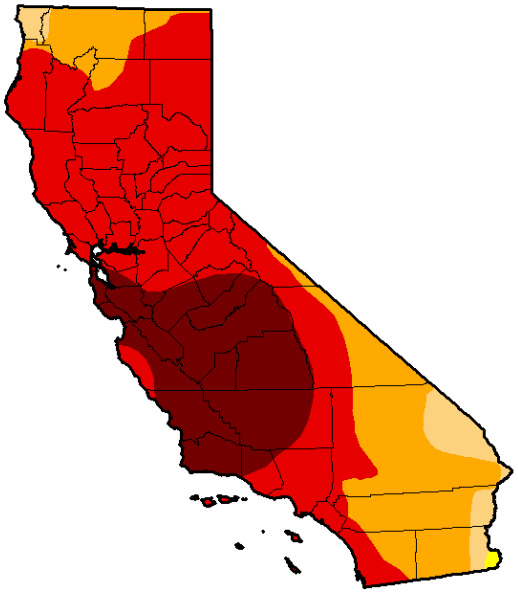
CoCoRaHS Map



United States Drought Monitor

U.S. Drought Monitor

California



March 25, 2014

(Released Thursday, Mar. 27, 2014)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	99.80	95.21	71.78	23.42
Last Week 3/18/2014	0.01	99.99	99.80	93.08	71.78	22.37
3 Months Ago 12/24/2013	2.61	97.39	94.25	84.88	27.59	0.00
Start of Calendar Year 12/31/2013	2.61	97.39	94.25	87.53	27.59	0.00
Start of Water Year 10/1/2013	2.63	97.37	95.95	84.12	11.36	0.00
One Year Ago 3/26/2013	0.00	100.00	48.38	24.22	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
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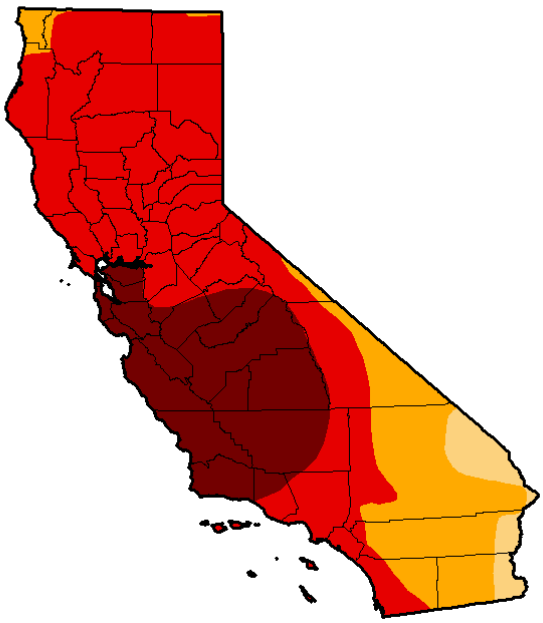
http://droughtmonitor.unl.edu/

U.S. Drought Monitor

California



April 29, 2014

(Released Thursday, May. 1, 2014)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	96.01	76.68	24.77
Last Week 4/22/2014	0.00	100.00	100.00	96.01	76.68	24.77
3 Months Ago 1/28/2014	1.43	98.57	94.18	89.91	67.13	8.77
Start of Calendar Year 12/31/2013	2.61	97.39	94.25	87.53	27.59	0.00
Start of Water Year 10/1/2013	2.63	97.37	95.95	84.12	11.36	0.00
One Year Ago 4/30/2013	0.00	100.00	64.30	32.82	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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